# 醫用超音波專題

**Instructor:** 李百祺（博理館 425 室, E-mail: paichi@cc.ee.ntu.edu.tw）

**Time:** 週三 9:10am-12:00pm

**Place:** 博理館 211 室

**Objective:** Rebuild the basics. Introduce advanced research topics in the field of medical ultrasound. Efforts will be focused on topics that have clinical significance, engineering challenges and fundamental understanding in underlying physics.

**Textbook**: Class notes and journal papers.

**Prerequisites:** 醫用超音波原理, 醫學影像系統, 醫用超音波成像 (以上任一門均可) 或授課老師同意。

**Schedule:**

2/23: Orientation/How to read and search patents.
3/2: Revisit digital signal processing.
3/9: Revisit digital signal processing.
3/16: Revisit beamformation/report I. (Hand out homework)
3/23: Report I.
3/30: Adaptive imaging. (Homework due)
4/6: Adaptive imaging
4/13: Adaptive imaging.
4/20: Report II.
4/27: Report II/Nonlinear imaging.
5/4: Nonlinear imaging.
5/11: Nonlinear imaging.
5/18: Report III.
5/25: Report III/Biomedical ultrasonics. (Hand out take out exam)
6/1: Biomedical ultrasonics.
6/8: Report IV.
6/15: Report IV/Final assessment.
6/22: Take home exam due.

**Grading:**

10% Homework
10% Report I
20% Report II, III and IV (each)
20% Take home exam